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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,319	10/31/2001	Terrence Jones	10010587-1	3397

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EXAMINER

KANG, INSUN

ART UNIT PAPER NUMBER

2193

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/001,319	Applicant(s) JONES ET AL.	
	Examiner Insun Kang	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 1/10/2005.
2. As per applicant's request, claims 1-3, 14, 19, 21, and 23 have been amended.
Claims 1-23 are pending in the application.

Drawings

3. The drawings filed 1/10/2005 have been accepted.

Claim Objections

4. The objections to claims 2 and 3 have been withdrawn due to the amendments to the claims.

Claim Rejections - 35 USC § 112

5. The rejections to claims 1-23 have been withdrawn due to the amendments to the claims.

Claim Rejections - 35 USC § 101

6. The rejection to claims 14-23 has been withdrawn due to the amendment to the claims.

Claim Rejections - 35 USC § 102

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Buckler et al. (US Patent 5,050,088) hereinafter referred to as "Buckler."

Per claim 1:

Buckler discloses:

-triggering a macro of one or more compiled macros in response to one or more stimuli ("Each piece of processing equipment is programmed to be responsive to the sequence of operations defined by the program modules...through each workstation is controlled by the job descriptions and process scripts," abstract)

-said one or more macros are created using a high-level programming macro language ("a production control system...to manufacturing workcells...processing equipment therein...a plurality of program modules with each module defining a sequence of operations that are to be performed by at least one piece of processing equipment," abstract)

-compiling one or more compiled macros into a format recognizable by an interpreter residing within a fixturing device ("to provide a system that is configurable, interactively, through high level scripts," col. 2 lines 15-22)

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- transferring the one or more compiled macros to a firmware residing within the fixturing device; and the firmware running the triggered macro and executing one or more commands contained therein in response thereto ("to provide a system that is configurable, interactively, through high level scripts," col. 2 lines 15-22; "When materials arrive, the process script operations are read and executed," col. 7, Lot control) as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- each of the one or more commands are interpreted sequentially (col. 2 lines 15-22)

Per claim 3:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

-the high level macro programming language may be determined by the fixturing system (col. 1 lines 5-16; col. 2 lines 15-22) as claimed.

Per claim 4:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the one or more macros are compiled external to the fixturing device (col. 1 lines 55-65) as claimed.

Per claim 5:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- prior to the firmware interpreting the triggered macro, a triggered macro byte code is transferred to a local memory of the fixturing device (col. 6 lines 20-44) as claimed.

Per claim 6:

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The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the macro is triggered by one or more internal events corresponding to one or more hardware states of the fixturing device (col. 6 lines 20-44) as claimed.

Per claim 7:

The rejection of claim 6 is incorporated, and further, Buckler teaches:

- the one or more internal events are stored in a nonvolatile memory of the fixturing device (col. 6 lines 17-22) as claimed.

Per claim 8:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the macro is triggered by one or more external commands transmitted by a control software module (col. 6 lines 20-44; col. 7 lines 64-67) as claimed.

Per claim 9:

The rejection of claim 8 is incorporated, and further, Buckler teaches:

- the control software module is a compiler for the one or more macros (col. 2 lines 15-22) as claimed.

Per claim 10:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the one or more macros are compiled into byte code (col. 1 lines 55-65) as claimed.

Per claim 11:

The rejection of claim 10 is incorporated, and further, Buckler teaches:

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- the byte code is downloaded into a nonvolatile memory of the fixturing device (col. 6 lines 17-22) as claimed.

Per claim 12:

The rejection of claim 11 is incorporated, and further, Buckler teaches:

- one of a revision code is downloaded with the byte code, said revision code operable to determine a version of one or more macros currently loaded within the fixturing device (col. 10 lines 21-35) as claimed.

Per claim 13:

The rejection of claim 12 is incorporated, and further, Buckler teaches:

-during a system initialization, further comprising: a control software comparing a first macro revision with a second macro revision determined by a default macro file; and if the first macro revision and the second macro revision are not equivalent, the control software compiling and downloading the one or more macros from a file (col. 10 lines 21-35) as claimed.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter referred to as "APA") disclosed in the instant

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application in view of Buckler et al. (US Patent 5,050,088) hereinafter referred to as "Buckler."

Claim 14:

APA discloses:

- a supervising automation software module, coupled to a control software module of a computer program product, said automation software module operable to initiate operation of the structure ("Often the design using an embedded controller... allows the fixturing device... to be operated autonomously," page 4 lines 6-21)
- a fixturing device, coupled to the control software module, said fixturing device further comprising ("an embedded controller... such as a programmable logic controller... embedded within fixturing device... to control fixture system," page 4 lines 6-21)
- a firmware module, said firmware module operable to receive one or more stimuli, preferably corresponding to one or more hardware state changes of said fixturing device ("This type of fixturing device 220 has an embedded controller 230 with advanced firmware 240. The firmware 240 supports an extensive command set that includes high-level commands for normal operation. The test software 210 does not need to have intimate knowledge of the fixturing device 220 internal operation, although the fixturing device 220 does depend upon the controlling software 210 for basic operation. This is because the controlling

software 210 polls the fixturing device 220 for changes in state, prior to executing commands to change the state of the fixturing device 220," page 4 lines 6-21)

- one or more local memory modules, coupled to the firmware module, said local memory modules operable to contain one or more compiled macros and the one or more stimuli preferably corresponding to the one or more hardware states ("The embedded controller...is operable to respond to events...generated by changes in the hardware state...of the fixturing device," APA, pae 4 lines 6-21)

APA does not explicitly teach the one or more compiled macros, in response to the firmware module receiving the one or more stimuli, causing the one or more hardware states of the fixturing device to be changed. However, Buckler teaches it was known in the art of computer automated configuration and testing, at the time applicant's invention was made, to perform various operations autonomously ("a production control system and an associated method for interfacing automated material handling systems to manufacturing workcells...performing processing jobs on provided material," abstract) such as those disclosed in Buckler. It would have been obvious for one having ordinary skill in the art of computer automated configuration and testing to modify APA's disclosed system to incorporate the teachings of Bucker. The modification would be obvious because one having ordinary skill in the art would be motivated to change the hardware states of the fixturing device autonomously by using macros as suggested by Buckler ("Each piece of processing equipment is programmed to be responsive to the sequence of operations defined by the program modules," abstract) as claimed.

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Per claim 15:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the one or more stimuli are events receivable by the firmware module (Buckler, col. 2 lines 15-22) as claimed.

Per claim 16:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the one or more stimuli are commands receivable by the firmware module (Buckler, col. 2 lines 15-22) as claimed.

Per claim 17:

The rejection of claim 14 is incorporated, and further, APA teaches:

- the control software module is coupled to the fixturing device via an electronic transmission cable (APA, page 2 lines 13-21) as claimed.

Per claim 18:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- one or more of the one or more local memory modules are nonvolatile (Buckler, col. 6 lines 17-22) as claimed.

Per claim 19:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the firmware module is operable to change the one or more hardware states in response to the one or more stimuli (Buckler, col. 6 lines 20-44) as claimed.

Per claim 20:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

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- the one or more compiled macros were previously compiled using the control software module (Buckler, col. 42 lines 39-67) as claimed.

Per claim 21:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the one or more compiled macros are operable to be interpreted during an operational mode of fixturing device (Buckler, col. 10 lines 21-35) as claimed.

Per claim 22:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the control software module sends one or more commands, receivable by the firmware (Buckler, col. 42 lines 39-67) as claimed.

Per claim 23:

The rejection of claim 22 is incorporated, and further, Buckler teaches:

-the firmware module, upon receiving the one or more commands, executes one or more of the one or more compiled macros contained within the one or more local memory modules (Buckler, col. 6 lines 17-22) as claimed.

Response to Arguments

11. Applicant's arguments filed 1/10/2005 have been fully considered but they are not persuasive.

Per claim 1:

In response to applicant's arguments, the recitation "facilitating modification of a hardware state of a fixture system" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In response to applicant's argument, "Buckler does not teach a fixturing device or a fixturing system," Buckler discloses a production control system "utilizing distributed processing and modular software for interfacing an automated material handling system to manufacturing workcells ... for controlling an integrated manufacturing workcell (col. 2 lines 1-15). Therefore, Buckler's automated facility control system can be interpreted as a fixturing system. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

The applicant states that Buckler does not suggest or anticipate the use of a high level programming language such as C++.

In response, the claim recites a "high-level programming macro language." A macro is a script for doing something and Buckler states that the system is "configurable interactively through high level scripts (i.e. col. 2 lines 15-22)."

In response to applicant's arguments: "Buckler does not disclose or suggest transferring ... executing one or more commands contained therein in response

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thereto," it is noted that the script operations are read and executed to control each workstation ("system is configured through high level scripts," col. 2 lines 15-22; "When materials arrive, the process script operations are read and executed," col. 7, Lot control).

Per claim 14:

The applicant argues that:

Since Buckler has no relation to the design of fixturing systems, devices and software, there is no basis in the art to combine Buckler and AAPA... (remark, 12).

In response, the two prior arts are not combined as a whole. Buckler teaches that a method of performing "various operations autonomously" by using a macro is well known. Using a macro does not make AAPA's system inoperable. Thus, all the programming aspects described in APA do fulfill the features brought out in applicant's claims, given that the macro aspect of Buckler is combined into them, for which the motivation is as given above. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

The applicant states that :

The script of Buckler...are command oriented and not related to high level programming code that is compile and interpreted. The combination of Buckler and AAPA teaches away from the use of a high level programming language since Buckler uses a command line interpreted language (remark 12).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., high level programming code that is compiled and interpreted) are not recited in

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the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Per claims 2-13 and 15-23:

The applicant states that claims 2-13 and 15-23 are allowable as being dependent on the allowable base claims. As has been shown above, the rejections of claims 1 and 14 by Buckler are maintained, the argument that claims 2-13 and 15-23 are allowable as being dependent on the allowable base claims is considered moot.

Accordingly, the rejections of claims 2-13 and 15-23 are maintained.

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

I. Kang
Examiner
6/9/2005

Kanan *Ch*

**KAKALI CHAKI
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TECHNOLOGY CENTER 2100**